

# Astrogram

Communication for the Information Technology Age

## O'Keefe outlines NASA's approach to return to flight

An enthusiastic, standing-room-only crowd gave NASA Administrator Sean O'Keefe a warm welcome at a re-



NASA photo by Dominic Hart

NASA Administrator Sean O'Keefe answers a question at the conclusion of his presentation on July 17.

cent all-hands meeting at Ames. O'Keefe used the occasion to discuss the agency's plans for 'Return to Flight' and to tout the leadership skills of Ames' senior management, including those of incoming Deputy Director G. Allen Flynt.

Ames Center Director G. Scott Hubbard introduced the Administrator and observed, "It is extremely important that we do everything we can as an agency, as one NASA, to return to flight and address all the issues... so we can do that safely."

"We have been asked to explore and discover on behalf of the American people," said O'Keefe in describing NASA's mandate. "That's a pretty hefty responsibility, but also a pretty wide-open challenge to do things very creatively. It's a remarkable charter. It's one that gives us a tremendous license to do some absolutely fascinating things."

O'Keefe noted that over the course of NASA's 45-year history, the "agency has been defined by its unbelievable, stunning successes and its really horrific and deeply tragic losses." This is the definition of what exploration and discovery are all about, he said.

On the morning of Feb. 1, O'Keefe was at Kennedy Space Center, awaiting the return of Columbia from its 16-day

science mission, when he learned of the loss. "It was a moment in my life I will never, ever forget... a defining moment for all of us," he remarked.

As NASA struggled to come to grips with the tragedy, there were "some amazing, stunning, inspirational aspects to this that no one could ever have anticipated," said O'Keefe. "People stepped in and did things that even they may not have thought they were capable of doing," O'Keefe said. He praised those who responded for "their continued professionalism" in carrying out the agency's charter and doing what was necessary.

O'Keefe praised Hubbard, acknowledging "his performance and dedica-

tion to the effort as a member of the Columbia Accident Investigation Board (CAIB). You've done an amazing job," he said. O'Keefe asked Hubbard to serve on the board just a few hours after the disaster and the CAIB held its first discussions within eight hours of the loss of Columbia.

Hubbard was chosen "because of his past experiences with a range of other challenges this agency has confronted," O'Keefe said. "He was an obvious, natural choice." O'Keefe acknowledged that Hubbard's absence just a few months after being named Ames' director created a leadership challenge at Ames. "His contributions have been enormous,

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## Space directors meet the media



NASA photo by Eric James

NASA Administrator Sean O'Keefe (center) and other international space agency chiefs discussed space station operations and return to flight during a news conference July 29 at the Naval Postgraduate School in Monterey, Calif. Joining O'Keefe were (from left): Savi Sachdev, director general for space systems of the Canadian Space Agency; Shuichiro Yamanouchi, president of the National Space Development Agency (NASDA) of Japan; Jean-Jacques Dordain, director general of the European Space Agency; and Yuri Koptev, general director of the Russian Aviation and Space Agency (Rosaviakosmos).

## F2M makes it easier to travel

The NASA Freedom to Manage (F2M) task team has identified an existing solution to make travel easier for Ames employees.

The F2M task team visited Ames in November of last year and held a town hall meeting. During the meeting, an Ames employee commented that travel to professional conferences was difficult because of budget constraints.

In the past, if funding for a trip was not available, an employee could choose to pay his or her own way and attend in a personal capacity. However, then the employee would not be able to present a paper or serve on a panel because technically they would not be 'representing NASA' at that conference.

After looking into this request, the

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## Hubbard and Boyd honored as AIAA Fellows

NASA Ames Center Director G. Scott Hubbard and Executive Assistant to the Director Jack Boyd were recently named fellows of the American Institute of Aeronautics and Astronautics (AIAA).

Both Hubbard and Boyd were nominated by Code A Director Skip Fletcher. The awards were presented at a banquet on July 15 in Dayton, Ohio.

Hubbard was recognized for "Outstanding leadership of the Mars Exploration program, significant contributions to astrobiology, the understanding of radiation detection materials and devices and successful management of the Lunar Prospector mission."

Boyd was recognized for "50 years of outstanding contributions to the aerodynamics of supersonic fighters and bombers and extraordinary managerial and leadership contributions to the goals of NASA, the world of aeronautics and astronautics and engineering education."

"A lot of friends became fellows that night," commented Boyd. "It was nice meeting people I've worked with in the past and getting reacquainted."

The AIAA is the principle society

for those in the aerospace field. Its purpose is 'the advance of the arts, sciences and technology of aeronautics and astronautics and to promote

the professionalism of those engaged in these pursuits.'

BY ALLISON MARTIN ▲



NASA photo by Skip Fletcher

Ames Center Director G. Scott Hubbard, second from left, poses with his wife, Susan, far left; Jack Boyd, executive assistant to the center director, second from right, and Boyd's wife, Winnie, far right, at the recent AIAA honors night banquet.

## Ames Earth science researchers win national funding

Two Ames employees have been selected by NASA Headquarters from among 258 applicants to receive funding for new Earth science projects. Keith Golden of Code IC and Vince Ambrosia of Code SGE submitted proposals to the Research, Education and Applications Solutions Network (REASoN) program.

The five-year REASoN program aims to advance the use of observational measurements, models and systems engineering capabilities in Earth science applications. NASA Headquarters selected a total of 41 proposals to fund and has committed \$96 million to support the projects.

"These projects will take full advantage of public and private resources and partnerships to derive maximum benefit for the public good," said Dr. Ghassem Asrar, associate administrator of Earth Sciences at NASA Headquarters, of the selected proposals.

Golden's project is entitled 'An Agent-Based Interface to Terrestrial Ecological Forecasting.' His goal is to create more autonomous software for data processing and analysis.

"Currently, Earth scientists spend

too much valuable time on low-level data processing," said Golden.

"We want software with a little more intelligence, a little more autonomy," Golden said. "This system will automate many of the menial tasks necessary to conduct an ecological study. It will give scientists more time to do science."

The new software can be applied to many areas of ecology, such as agriculture, climate studies and forest management and will utilize data retrieved from various sources, including satellites and weather stations.

"There are so many ecologically and economically important applications that this technology can be applied to," said Golden.

Golden is collaborating with Earth science researchers at the University of Montana and computer scientists at the University of Washington to develop the software.

On the other side of the center, Ambrosia is working to improve wildfire response time along with Ecosystem Science and Technology (ECOSAT) Branch Chief Jim Brass. The project is

entitled: 'NASA Wildfire Response Research and Development Applications and Technology Implementation.'

The project's goal is to provide the United States Forest Service (USFS) with accurate wildfire data in a shorter amount of time. The project uses unmanned aerial vehicles (UAVs) and thermal infrared imaging technology. It could reduce the response time from eight hours to just 10 minutes, according to Ambrosia.

"We're developing technology to assist the USFS in understanding, managing and mitigating fire occurrences," Ambrosia said.

"The USFS has established a committee to advise NASA researchers about priority issues for development. The committee's goal is to ensure that NASA develops usable, valuable technology that meets USFS needs," Ambrosia said.

Golden thinks the program is a great way to move Earth science technology forward.

"REASoN creates a bridge between research and practical application," he said.

BY ALLISON MARTIN ▲



# O'Keefe outlines NASA's approach to return to flight

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and . . . will make the agency stronger," he said.

The Administrator also praised the Deputy Director for Research Steven Zornetzer, who served as acting deputy center director during Hubbard's absence from Ames. Zornetzer stepped in immediately and "has been a source of tremendous confidence to all of us . . . and did a remarkable job for the agency." The agency owes Zornetzer "a tremendous debt of gratitude" for his leadership, O'Keefe said.

O'Keefe observed that by the end of the day on Feb. 1, no one had any idea how widespread the debris field was or how to tackle a problem of such magnitude. Although the federal government has expertise in dealing with human-made disasters, this was unlike anything anyone has ever faced before. The 250-mile wide debris field covered an area the size of Rhode Island, stretching from Dallas to New Orleans. There were two priorities immediately following the accident: to protect the public from the toxic hazards present in much of the debris and to piece together evidence so NASA can understand what could have caused the problem and how to fix it. Throughout his remarks, O'Keefe noted that people stepped up to deal with the crisis, despite the fact "there was no model" to guide the agency's response

to the disaster.

Over the first 100 days following the tragedy, people collected debris, assembled it and began to understand the "initial, precipitating events" that led to the breakup of Columbia. Some 25,000 people were involved in the effort, from federal, state and local agencies, as well as many local citizens. About 40 percent of the orbiter by weight eventually was recovered.

The aftermath of the Columbia disaster was "a huge logistics challenge" and "a disaster waiting to happen," O'Keefe said. Managing the recovery efforts that involved 35 to 40 agencies and a large number of private citizens was a challenge, O'Keefe said, but now it is widely viewed as a "model for inter-agency cooperation." O'Keefe added that there was a great potential for the outpouring of public support to turn negative if things weren't handled correctly. Learning to deal with an unprecedented situation like this is not something that is learned. "That's part of leadership instinct," he said.

O'Keefe praised David King, then the deputy director of Marshall Space Flight Center, for his leadership in establishing an emergency management team in east Texas in the days immediately following the tragedy. He pulled together all the agencies involved and

coordinated their activities "to great purpose, to great effect and to great result." Leadership of the emergency management team then transitioned to Ames' Flynt, and then to Michael Rudolph, deputy director at Stennis Space Center.

"Allen Flynt brings an enormous . . . ability to bring together people with lots of different backgrounds, lots of different interests, lots of different talents, to figure out how to take those capabilities and bring them to bear on a problem." The Administrator urged all NASA Ames employees to follow Flynt's example and to look expansively at all the different things NASA does and how they can bring Ames' capabilities to bear.

O'Keefe noted that we are defined by "the great successes and the horrific tragedies" that befall us. The agency's response to the Columbia disaster and to the recommendations of the CAIB "is a defining moment," he said. "Really dedicating ourselves to doing this right is something we all want to take as a responsibility."

Returning to flight, O'Keefe said, "isn't about a program or a center or an individual enterprise. It's about the agency." Every person must focus every day on what he or she can do to prepare NASA to return to flight. He urged each employee to ask each day, "What can I do today to help return to flight?"

The Administrator challenged employees to "find new and different ways to collaborate between and among us. The capabilities within this agency are remarkable, they're stunning. But they're always defeated whenever they're pitted against each other," he said. "This notion that someone's gain is someone else's loss has to end."

The investigation board's report will be "hard hitting," but we should not be defensive, O'Keefe said. Defensiveness will detract from our goal of safely and responsibly returning to flight. NASA will follow the recommendations "to the letter and more," he said.

O'Keefe concluded by stating emphatically that NASA will take each of the CAIB's suggestions seriously. How we respond will define all of us, he said. NASA has a "reputation for having pulled together in times of great triumph and great tragedy for great gain." There are a lot of people out there who want to do what we do, sit where we sit, he reminded the audience. He also took the time to thank Ames for inspiring the next generation of explorers through programs such as the Astrobiology Academy and the Carnegie Mellon University summer robotics camp, which he visited while on site.

## Ames hosts first NASA LDP orientation

NASA Ames played host to the first Agency Leadership Development Program (LDP) Orientation in July. Twenty-two civil servants from representative centers throughout the agency assembled to begin their program year together. The NASA LDP seeks to de-

velop powerful leaders who understand and align with NASA's mission and vision for the future, to create a shared culture of cooperation and communication within the agency and to provide an opportunity to participate while learning. It is a competitive program and was designed as a succession planning tool to support NASA and the centers in developing future agency senior leadership. Nomination for the program is made by the individual centers' senior management through its career development panel and the center director. The program at Ames is administered through Code JH and its training group.

Although the NASA LDP has similarities to the agency's former Professional Development Program (PDP), which was abolished in 2002, the LDP has unique characteristics which differentiate it from past programs. The LDP is framed around an integrated set of elements that serve as common threads across the year-long experience. These include:

- A powerful results-based leadership model which frames leadership simply and powerfully as a set of choices made to align participants as leaders, to

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NASA photo by Tom Trower

Chris Williams presents the program briefing at Ames for the Agency Leadership Development Program orientation held in July.

## NASA Ames development plan wins national award

A comprehensive plan to transform part of Moffett Field into the NASA Research Park has been named winner

"We're excited to be receiving this prestigious national award," said Patricia Morrissey, director

of planning for NASA Research Park, a 213-acre development project that is the cornerstone of the NASA Ames development plan. "This award reflects the dedication and hard work of each member of the NASA Development Team."

The NASA Research Park will be located in the heart of Moffett Field and will enable research collaboration in astrobiology, information technology and nanotechnology, as well as educational programming in science, technology, engineering and math. A lease was signed with

and De Anza Community College District; the National Center for Women in Science, Technology, Engineering and Math; the National Association for Equal Opportunity in Higher Education; the California Air and Space Educational Foundation and the Girvan Institute.

The development plan includes provisions for the restoration of approximately 600,000 square feet of historic buildings, the addition of 2.1 million square feet of new construction (education facilities, office and research and development space and housing) and the demolition of approximately 560,000 square feet of functionally obsolete structures.

The plan is divided into four areas: the Ames campus (234 acres); NASA Research Park (213 acres); Bay View (95 acres) and Eastside / Airfield (952 acres). The NASA Research Park and Bay View components of the plan would result in a total of 4.5 million square feet of renovated and new buildings.

Total development cost of the NADP is expected to be \$1 billion, including infrastructure upgrades and replacements, as well as building renovation and construction. While NASA will directly fund any facilities constructed within the Ames campus for agency use and occupancy, partners will be responsible for the rehabilitation of existing buildings and construction of new facilities for their own use and occupancy.

For information about the project on the Internet, visit the Web at: <http://researchpark.arc.nasa.gov>

BY MICHAEL MEWHINNEY ▲



NASA photo by Tom Trower

From left to right: NASA Ames Development team members: Lisa Lockyer, Greg Gibbs, Meighan Haider, Michael Marlaire, Trish Morrissey and Geoff Lee. On the team but not pictured: Laura Lewis.

of the 2003 General Services Administration Achievement award for Real Property Innovation.

An independent panel of four judges selected NASA Ames' development plan from 49 entries submitted by 21 federal agencies and departments. Awards will be presented Oct. 9, during a ceremony at the American Institute of Architects in Washington. A \$10,000 cash award and a plaque will be presented to members of the Ames development team.

"NASA is very pleased to receive this major government-wide award. The NASA Research Park will benefit both NASA and the nation," said Ames Center Director G. Scott Hubbard. "We have developed this outstanding plan to transform part of a former Navy base into a world-class, shared-use R&D and education campus with universities, industry and non-profits. The benefits will be huge, in research, development and educational programs and in cost recovery for the operations of our facility. To be recognized as a federal government leader in innovation is a great way to get started toward our goal," he said.

Carnegie Mellon University in January 2003 for the university's west coast campus.

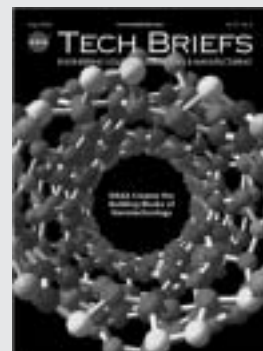
Ames' planning partners include the University of California at Santa Cruz; San José State University; the Foothill

## Tech Briefs highlights nanotechnology

The NASA Tech Briefs magazine for August 2003 is a special issue highlighting nanotechnology. NASA Ames figures prominently in the past and future of nanotechnology. The August issue contains articles affiliated with Ames, including an interview with Ames Center Director G. Scott Hubbard. This engineering journal is published monthly by Associated Business Publications.

If you would like to contribute a submission for future publication or if you would like a copy of NASA Tech Briefs August 2003, contact Lisa Williams at ext. 4-2954 or e-mail at: [liwilliams@mail.arc.nasa.gov](mailto:liwilliams@mail.arc.nasa.gov).

The figure shows the cover of NASA Tech Briefs August 2003 maga-



zine, Image provided by Chris Henze (Code INR) and Creon Levit (Code IN).



## Ames Associate Fellows for 2002 named

Dochan Kwak and David Des Marais were selected by the NASA Ames Basic Research Council as the 2002 Ames Associate Fellows for their outstanding scientific accomplishments. Each will receive a personal honorarium of \$2,000



NASA photo

Dochan Kwak

and a research stipend of \$20,000 from the Director's Discretionary Fund (DDF).

Kwak's list of research accomplishments includes the development of the INS3D family of codes used to solve the 3-D incompressible Navier-Stokes equations. These codes have been used to solve a variety of real-world problems, from improving space shuttle main engine (SSME) design, to his patented technology for improving a life-saving heart pump called the NASA DeBaKey ventricular assist device (VAD).

Kwak teamed with researchers at Johnson Space Center, researcher Cetin Kiris of Ames and MicroMed Technologies to improve the performance of the VAD. They were able to suggest several design improvements, which reduced red blood cell damage and eliminated blood-clotting problems. To date, the device has been successfully implanted in over 190 patients. This life-saving device was recognized by NASA as the Commercial Invention of the Year for 2002.

Kwak has also won the H. Julian Allen award, the NASA Software of the Year award, the Exceptional Scientific Achievement award and two Space Act awards. He has published 90 papers, given many invited lectures and has served on international conference committees. He is currently chief of the applications branch in the NASA Advanced Supercomputing (NAS) Division, where he oversees development of enabling computational technologies while conducting his own applications research in high-end computing. His future research will be focused on developing high-end computing technolo-

gies for rocket propulsion systems and the development of a computational hemodynamics capability under altered gravity conditions.

Des Marais has been a research scientist in exobiology at NASA Ames since 1976. His broad research efforts have addressed the biogeochemical carbon cycle, namely, the processing and exchange of carbon compounds between the biosphere, oceans, atmosphere and interior of Earth. Des Marais' areas of specialization have included the stable isotope geochemistry of carbon in lunar samples, meteorites and oceanic basalts, the biogeochemistry of microbial communities in hypersaline and hydrothermal environments and the carbon geochemistry of ancient (precambrian) carbonates and organic matter. His work also addresses the biogeochemical evidence for the early evolution of Earth and its biosphere.

Des Marais has conducted geologic fieldwork in the U.S., Australia, Canada and South Africa; and biological field studies in the U.S. and in Mexico. He has authored or co-authored more than 120 peer-reviewed articles and book chapters. He is currently the principal investigator for the NASA Ames team of the NASA Astrobiology Institute. He is an associate editor of the journals *Biogeochemistry* and *Astrobiology*. Des Marais' Mars-related interests include determining the extent of aqueous alteration of the martian crust and searching



NASA photo

David Des Marais

for fossil evidence of a martian biosphere. He is an interdisciplinary scientist on the 2003 Mars Exploration Rover Team and the 2005 Mars Orbiter CRISM Team. Des Marais has served on several NASA and NSF peer review panels, as well as NASA science definition teams and science-working groups. He contributed substantially to the first NASA astrobiology roadmap in 1998 and he chaired the group that directed the revision of the roadmap in 2002. In 2002, Des Marais was selected as a fellow of the Geochemical Society and the European Association of Geochemistry.

BY STEPHANIE LANGHOFF ▲

## What's new with Travel Manager?

Two more training classes have been added to the Travel Manager program. They are:

### Preparer training

Date: Monday and Tuesday,  
Aug. 11 to 12

Time: 8 a.m. to 12 p.m.

### Hands on approver reviewer, traveler training

Date: Tuesday, Aug. 19

Time: 9 a.m. to 11 a.m.

To register for training, contact Dana Davidson at ext. 4-0584 or e-mail her at: [ddavidson@mail.arc.nasa.gov](mailto:ddavidson@mail.arc.nasa.gov).

Travel Manager is continuing to hold drop-in entry labs on Mondays and Wednesdays from 1 p.m. to 3 p.m. and Fridays from 9 a.m. to 11 a.m. but

have moved to Bldg 19, Room 1040.

Bring your work and a Travel Manager expert will assist you.

The Travel Manager team has established a group of Travel Manager super users. The super users will act as the first point of contact to assist individuals with Travel Manager functionality. More information on the super users may be found on the Travel Manager Web site at: [www.travelmanager.arc.nasa.gov](http://www.travelmanager.arc.nasa.gov).

Remember to submit a print out of your travel voucher with your receipts to the Travel Office. Their mail stop is 203-14. Vouchers without receipts will be held until receipts are received.

## Students tackle West Nile virus and invasive plant research

Two student researcher teams at NASA Ames are working to prevent the spread of West Nile Virus and foreign weed growth this summer, thanks to a new educational program called DEVELOP.

Started in 1998 at Langley Research Center, DEVELOP stands for Digital

program director and Cindy Schmidt of California State University is the program coordinator.

Using the Eastern Range Dispersion Assessment System (ERDAS) Imagine software, the two student teams use satellite imaging to geographically identify target areas in their projects.

The first team is working with the Monterey County Health Department monitoring vector-borne diseases, namely the West Nile virus. The satellite technology helps the students identify areas in the county where a West Nile carrier, the *Culex* mosquito, is likely to live.

"We can't identify individual bodies of water at this resolution," Emily Clary, a graduate student at the

University of New Mexico, said of the software. "So we look for high vegetation levels, which will likely be an area with a lot of water."

The students also go into the field to identify the mosquito species in select areas. Once the data is collected, Baliff will combine their findings with demographic data.

"The elderly are high-risk (for fatally contracting the disease)," Baliff said. "I'm looking for assisted living, nursing homes, even golf courses -- places where the elderly are likely to be."

Once the study is completed, the students will hand over their findings to the Monterey County Health Department so that it can prepare for and prevent the West Nile Virus from inhabiting the identified high-risk areas.

The second student team is working on an invasive plant species management system with the Pyramid Lake Paiute Tribe in Nevada. Skiles and Schmidt selected this project because of the potential to build a relationship between the two organizations.

"Whenever a government agency can work with a tribal council, that rings bells," Skiles said.

The team visited the reservation,

that, since a 1997 flood, has had an increase in weed growth. One of the main species they will target is the tall white top, a plant native to the Mediterranean region.

Based on their plant identifications on the ground, the students will use satellite images to identify the spectral 'fingerprint' of the plant they found in that area. Then, they will single out other nearby regions using the images where that same fingerprint appears. This means the same plant is in those regions as well.

"Different weeds have different reflection properties," explained Jeremiah Knoche, an Oregon State University graduate student. "By comparing different reflective bands, we can identify the different species."

Once their research is complete, the students will create a database for the tribal council to use.

"The Paiute tribe is looking for a way to document where the weeds have historically been and where they can go," said Douglas Gibbons, a Utah State University graduate student. "Our ultimate goal is to provide them with the necessary information they need to make management decisions, like how much cattle can graze in an area or pesticide control. It's helping them know what to do with their land."

The projects are giving the students valuable experience using up-to-date software, as well as true leadership and independence. The DEVELOP program motto is 'student run, student led,' so Skiles and Schmidt help only when necessary.

"I'm totally excited about this," said Alex Hogle, an undergrad at the University of Utah. "I'm hoping to go back to Utah and apply what I have learned here."

Lakshmi Karra, a student from Gunn High School in Palo Alto, said that she is also excited because the team is doing service for the community.

"I think the ecosystem gets overlooked sometimes, but it's a very important area of study," she said.

The students were chosen on application processes. The high school students filled out applications and Skiles and Schmidt did subsequent interviews. The college students applied through their state governors. Skiles said the program is going well so far.

"The students are so exciting to work with," he said. "They think outside the box, and it's a real two-way street."

BY ALISON MARTIN



NASA photo courtesy DEVELOP Team

DEVELOP students Elizabeth Ballif and Emily Clary check standing water for mosquito larvae in Salinas, California.

Earth Virtual Environment and Learning Outreach Project. Former Vice President Al Gore began the program, whose goal of which is to give students hands-on experience with immersive visualization technology.

Nine students are working on a West Nile Virus preventive study in Monterey County and a study of invasive plant species (weeds) on a Native American reservation in Pyramid Lake, Nev. The state-of-the-art, remote-sensing technology they are applying uses satellite and aircraft images to deduce surface conditions quickly and cost effectively. Most students never use it until graduate school, a fact that attracted many of the students to the program. But the prestige associated with NASA didn't hurt either.

"Of course, to work with NASA is a big thing," said Elizabeth Ballif, an undergraduate student at the University of Utah. "It's technology I haven't worked with, but they said they'd train me. So I said, 'Get trained by NASA? Sure, sign me up!'"

Three high school, three undergraduate and three graduate students make up the program. Jay Skiles, NASA Ames' senior research scientist, is the



# Astro-Venture helps students explore habitable planets

As NASA embarks on new missions to Mars in the search for evidence of life, students now have access to virtual tools that will help them understand the conditions that make human life possible on Earth and how to design a habitable fictional planet.

In July, three new modules were added to NASA's award-winning Astro-Venture Web site developed at NASA Ames as part of NASA's educational goal to inspire students to pursue careers in math, science and technology. The site is an educational, interactive, multimedia Web environment in which fifth- through eighth-grade students emulate NASA occupations and use scientific inquiry, to search for and design planets with the necessary characteristics for human habitation. The original astronomy unit and the three new modules -- geology, biology and Earth science -- complete the Earth system science unit for middle school students.

"Astro-Venture is an excellent tool to assist educators in delivering exciting NASA research to our future generation of explorers," said Donald James, NASA Ames education director. "The site exposes students to the compelling topic of astrobiology and the wide variety of careers that support this area of research." Astrobiology is the study of the origin, evolution, distribution and destiny of life in the universe.

Guided by the animated character 'Astro Ferret,' students explore the environmental features that help Earth support human life. They then engage in standards-based classroom lessons that emphasize why these features are necessary, before embarking on mission modules that simulate how NASA scientists are searching for habitable planets. The Web site uses multimedia features such as video, animation and graphics to keep students engaged and stimulated to explore each learning module.

The new modules continue the multimedia-rich, inquiry-based standard set by the original astronomy unit, which includes two astronomy multimedia modules, an astronomy educator guide of inquiry-based classroom activities and a wealth of career fact sheets.

In the atmospheric science module, students can manipulate the amount of different gasses in our atmosphere and draw conclusions as to which proportions are necessary for human survival. Students also engage in activities that explain the properties of gasses and chemical reactions. In geology, students learn about the structure of the Earth, volcanoes and the formation and recycling of rocks. The biology unit covers the 'web of life,' which explains how all creatures are dependent on each other.

"The completion of these three new modules provides students with a unique opportunity to explore the Earth as a system," said Christina O'Guinn, NASA Ames' educational team lead. "Students view the Earth from the perspective of astrobiologists and see how all areas of science are interrelated. They come away with an appreciation of their planet and the complex systems on Earth that support human habitability."

To help teachers implement the lessons in the classroom, astronomy and atmosphere educator guides are currently available and geology and biology guides are being developed. Astro-Venture lessons are designed to meet national education standards.

Since its launch in February, Astro-Venture has been recognized by the educational community with an 'A+' review by Education World, Wallingford,

Conn., and with the Star Award from the Griffith Observatory in Los Angeles, for excellence in promoting astronomy. Astro-Venture has been included in the Gender and Science Digital Library Project conducted by the Educational Development Center, Newton, Mass.; the Digital Dozen Project, conducted by the Eisenhower National Clearinghouse, Columbus, Ohio; and in an educational exhibit at the Bloomfield Science Museum, Jerusalem, Israel.

For information about the NASA Education Enterprise and programs, visit: the Web at: <http://education.nasa.gov> For information about Astro-Venture, visit: the Internet at: <http://astroventure.arc.nasa.gov> And, for information about NASA Astrobiology Institute, visit: <http://nai.arc.nasa.gov>

BY JONAS DINO ▲

## Ames hosts first NASA LDP orientation

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identify results and to set a course of action to achieve them.

- Shared learning workshops and training: over the course of a year, the LDP class meets six times for leadership development and professional skills training. Each session builds on the previous sessions' work, preparing participants to re-enter their NASA careers at a new level of leadership and technical capacity. Class training is updated annually and includes: congressional operations; critical thinking, problem solving and leadership training by the Army War College; and development of skills needed to create a learning organization including complex organizational systems strategy.

- Tailored developmental assignments: each participant chooses at least one developmental assignment designed to challenge and increase their technical experience and capacity. These assignments can be at another center within NASA, other federal agencies, private industry, academia or with non-profit organizations. Under specific conditions, participants may participate in international assignments.

- Structured interactions with key leaders: throughout the year, the LDP participants interact with many of NASA's top leaders as well as others from outside. These interactions, in a variety of formats, are intended to provide participants with access to the current leadership thinking that is guiding NASA into the future and understanding better how the agency serves society and how one's developmental experience is in alignment with the President's Management Agenda, the Strategic Human Capital Plan, OneNASA and

other agency initiatives.

- Rigorous, ongoing leadership coaching and feedback. At each LDP session, as well as in three, half-hour individual sessions throughout the year, participants have access to personalized leadership coaching and feedback from the team of program leaders and consultants supporting the program. This resource allows each individual to assess their leadership strengths and areas needing improvement.

- Work assigned by the NASA Administrator to teams of four to five participants to insure just-in-time, return-on-investment to the agency.

After a rigorous application and interview process, three individuals from Ames were recommended to the agency panel-making selection. All three of Ames' candidates were chosen to participate in the program, which begins this summer. They are Jill Bauman of Code SFS, Beverly Girtlen of Code SLO and Orlando Santos of Code D.

During the orientation, LDP participants were treated to a tour of the FutureFlight Central and the cockpit simulator and enjoyed a demo of the interactive Mars fly-through.

They also met with Deputy Center Director (Acting) Steven Zornetzer, who discussed leadership skills.

For more information regarding the NASA LDP as well as other leadership and management training and development programs here at Ames as well as the agency, contact Lee Hayward, senior program manager at Ames at e-mail [lhayward@mail.arc.nasa.gov](mailto:lhayward@mail.arc.nasa.gov) or by calling ext. 4-4684.

## Academy for Astrobiology inspires students, looks to future

In recent years, NASA has made it a priority to emphasize education and encourage students to pursue careers in science and technology. Internship and research programs across the Ames campus are evidence of this initiative.

One of Ames' best educational assets lies in the NASA Academy for Astrobiology. Started in 1997, it is a 10-

and is based on academics, leadership and multiple essays.

"They are some of our best and brightest," said SETI Institute Director Jill Tarter, who visits with academy students nearly every year. To read more about Tarter and her presentation at the Ames astrobiology colloquium, see 'SETI Scientist Visits the Academy for Astrobiology' article on the following page.

Each student in the academy works with an Ames astrobiology scientist, investigating a specific research project. All of the students collaborate on a group project during the 10-week period.

The 2002 academy's group project, 'Mars as a Mission Driven Project,' addressed the advantages of planning a manned mission to Mars in terms of exploration, innovation and education.

The team noted a study by the National Science Foundation (NSF) in 2000, which predicted that in 10 years there will be a 15-percent increase in demand for physical scientists and a 20-percent increase in demand for engineers. Enrollment in these areas has been down in recent years.

The students also noticed that in years after key NASA missions, like Apollo 11 and Apollo Soyuz, the number of science and engineering students increased. They concluded that a manned mission to Mars would help strengthen student interest in science and engineering, just as previous missions did.

This year's academy is focusing on a different type of project that came about "serendipitously," in the words of current academy research associate John Keefner.

An academy alumna, Loretta Hidalgo, is working on a deep-sea dive with Titanic director James Cameron. She told the academy that she would take an experiment down for them.

The group quickly formulated a plan, built an apparatus and sent it to Hidalgo.

"The hard part was deciding what to send down, so we came up with a general plan and then incorporated everyone's talents and strengths into the plan," Keefner said. "It was just a great opportunity."

The team's project, 'Microbiologically Influenced Corrosion at Deep Sea Vents,' will send a variety of metals and heat shield tiles to the Menez Gwen deep-sea vent. The materials will be at a depth of 850 meters in acidic, 280 degrees Celsius water for a few days.

The experiment aims to gain insight about extremophiles (organisms that live in conditions that are physically and chemically harsh or extreme) by studying corrosion of the apparatus. This will

help scientists develop hypotheses about the origins of life on Earth. The undersea location could also serve as an analogue to possible extraterrestrial life.

The academy allows the students to do first-rate research and get a foot in the door by meeting and collaborating with a variety of scientists at Ames and other NASA centers. But for some students, their experience is also a dream turned into reality.

"Last summer was the best summer of my life," said Julie Litzenberger, a 2002 academy participant and one of this year's resident assistants. "You can't put the uniqueness of the academy into words."

Mike Hannon, also a former participant and current resident assistant, said he was always interested in "anything NASA," but that his experience with the academy has enhanced his understanding of the agency, making it an attainable goal.

"The academy puts faces to the whole organization. It takes it out of the realm of fantasy and makes it real," he said.

Hannon has reshaped his career plans as a direct result of his academy experience.

"I always had notions of medicine in the back of my mind and now I'm interested in space physiology," he said. "I found out my interests through my exposure in the academy. Now I hope to become a NASA flight surgeon someday."

Gill currently is writing a five-year plan, outlining the future of the Academy for Astrobiology. To brainstorm this topic, as well as to give the astrobiology community a chance to share their work with one another, the academy hosted the Ames astrobiology colloquium in July.

At the colloquium, Academy Director Doug O'Handley gave an overview on the academy and John Kaumeyer of Lockheed Martin said that industry is always looking for graduates with research experience, like academy participants. Students Bethany Ehlmann and Doug Grant from the 2002 academy presented their group project and Andrew Pohorille spoke on the Computational Astrobiology Internship Program.

Later, a number of scientists, including Tarter, spoke about several projects in the astrobiology field, and a panel discussion on the future possibilities of the academy rounded out the day.

Another highlight to the 2003 academy year was NASA Administrator Sean O'Keefe's visit to Ames on July 17. O'Keefe spoke to the research associates

*continued on next page*



NASA photo by Dominic Hart

*Astrobiology Academy co-director Zann Gill leads a panel discussion on the future of the academy and its programs.*

week-long summer program that provides students with research opportunities, leadership experience and broad-based views of the inner workings of the space program.

"It's an informal learning process," said Zann Gill, co-director of the academy. "The research associates are already leaders from the states they represent. Coming from diverse backgrounds, they learn a lot from their work and from each other."

Astrobiology is broadly defined as the study of life in the universe. It encompasses many fields, including biology, geology, chemistry and other sciences. Astrobiology asks the questions, "How did life begin?" and "Is there life elsewhere in the universe?"

The academy is as diverse as the field of astrobiology. The 13 undergraduate and graduate students, referred to as research associates, major in a variety of subjects, including aeronautics, aerospace engineering, Earth and planetary science, geological engineering, geology, biomedical engineering, biology and mechanical engineering.

The students applied to the academy program through their state space grants process. It is very competitive



# Academy for Astrobiology inspires students, looks to future

*continued from previous page*

about how important the academy is to the agency's goal of education.

"NASA is focusing on education and outreach," Hannon said. "If they really want to 'inspire the next generation of explorers,' this is where it's at."

Litzenberger said her experience has definitely inspired her to consider NASA in her future.

"After the academy, I can say I want to work at a NASA center, whereas before I don't think I would have said that," she said. "Ames' location also played a role in my decision to attend Stanford for grad school."

Eight of the 12 members of the 2002

academy are pursuing PhDs. One alumnus is returning to Ames to do her postdoc.

Hannon said that the success of the academy will start to show as alumni finish their education and come back to work at NASA centers. O'Handley said he hopes other centers will sponsor academies in the near future.

"We are learning so much and having a very rich experience," Keefner said. "At the end of it all, I'd like to be able to say that I did a great job on my research -- that I got the job done. I'd like to be able to say that we started and ended a group project successfully and that we

saw many opportunities as a result. And, I hope that we can provide those opportunities to future academy students in the future."

To learn more about the NASA Academy for Astrobiology, visit the new Web site at: <http://nasa-academy.arc.nasa.gov>.

BY ALLISON MARTIN ▲

## F2M makes it easier to travel

*continued from front page*

F2M team found a policy in the NASA Financial Management Manual (FMM). The policy states that, "An employee and authorizing official may agree to a cost-sharing arrangement for travel under the Government Employees Training Act (5 U.S.C. 4109). Under these conditions, the travel order will include appropriate statements indicating that attendance is in keeping with 5 U.S.C. 4109 and the travel is a cost-sharing agreement."

To enable this cost-sharing agreement, the statement, "Cost-sharing travel (sometimes referred to as permissive travel) authorized under the Training Act has been agreed to as mutually advantageous to both parties," should be added to the travel order.

This policy ensures that a variety of arrangements involving training qualify as cost-sharing. An employee may pay part or all of the expenses themselves and still act as a NASA representative.

"In my work with 3D audio, I have had many opportunities to attend training-related conferences, some that could not be supported by our travel budget," said Durand Begault of Code IHH. "This recent clarification makes things easier and, therefore, will facilitate interaction with my colleagues at important meetings I might otherwise miss."

According to Ames Chief Counsel Sally Mauldin, this type of travel has been available for some time, pursuant to the Training Act. She and her staff continue to advise employees that cost-sharing is available as an option if the travel is truly training-related (including seminars and conferences), not merely travel to perform one's job.

NASA employees may view this policy in FMM Volume 9700 on the NASA Web site at: [www.hq.nasa.gov/fmm/9700/9700.pdf](http://www.hq.nasa.gov/fmm/9700/9700.pdf).

All other FMM chapters may be accessed at: [www.hq.nasa.gov/fmm/fmmintro.htm](http://www.hq.nasa.gov/fmm/fmmintro.htm).

BY ALLISON MARTIN ▲

## SETI scientist visits the Academy for Astrobiology

Astrobiology asks the question, "Does life exist elsewhere in the universe?" Renowned scientist Jill Tarter says that although we don't know the answer yet, the chances seem good enough to look into it.

"Good planets are hard to find," Tarter said, speaking at Ames as part of the astrobiology colloquium held in July. "But life started so fast (on Earth) that it seems likely it started elsewhere as well."

Tarter, director of the Center for SETI Research, presented 'From Microbes to Mathematicians,' which discussed SETI's relation to astrobiology and methods SETI uses in the search for a signal from intelligent life elsewhere in the universe.

"The astrobiology community's search for signs of life in our solar system in places like Europa or Mars interests SETI, because a second home to life in our solar system would greatly strengthen the argument for other life in the universe," Tarter said.

Tarter also discussed the different projects that SETI is currently pursuing, such as Optical SETI, which searches for powerful light pulses; Project Phoenix, which searches for a strong radio signal among 1,000 nearby stars; and the Allen Telescope Array, which will speed up radio astronomy by a factor of at least 100 once completed.

"If a signal is detected, it will have a profound influence over time," Tarter said. "I hope it will hold up a mirror and trivialize the differences we see in humans."

Tarter was pleased to speak to the NASA Academy for Astrobiology, a group of 13 college and graduate students, at the colloquium because they are the future of her work, she said.

"The project is generational and it will probably be your generation who will find the signal, if there is one," Tarter said to the students.

Tarter has met with the academy almost every summer since its inception in 1997.

"SETI is a subject the students are interested in and I'm interested in them! They have gone through a stiff competition and so are some of our best and brightest," Tarter commented. "Their presence at the academy attests to their willingness to work across historical disciplinary boundaries and get their hands 'dirty' on all aspects of a real project. Somewhere among the academy students, some day, I hope to meet my replacement."

Tarter holds the Bernard M. Oliver Chair for SETI Research and works at the SETI Institute in Mountain View. She has been a principle investigator on several educational projects and collaborations and has received numerous awards for her contributions to the scientific community. Most recently, she was elected a fellow of the California Academy of Sciences in 2003.

For more information on Tarter or the SETI Institute, visit the Web at: [www.seti.org](http://www.seti.org).

## What's the deal with budget formulation?

Most people are aware of the agency-wide Integrated Financial Management Program (IFMP). Some have been greatly impacted, while others have experienced minimal impact. IFMP is made up of several projects that are being rolled out across multiple years, and the next project to 'go live' in late October is 'budget formulation (BF).' This article addresses a variety of questions and answers from local and agency-level staff about the project.

What is budget formulation and what does it mean to you? The growing demand from Congress for more timely information and accountability requires NASA to improve on its current financial management system and budgetary processes.

"Much of what we do at NASA turns on our credibility to promise what we think we can do, and deliver on what we promise," stated NASA Administrator Sean O'Keefe in the January 2003 issue of NASA Watch. The BF module, using SAP's strategic enterprise management as part of the IFM suite of applications, will help NASA attain that goal.

Currently, NASA's budget process consists of consolidating a variety of center-unique procedures, data and practices and entering that information into a collection of Excel spreadsheets manually. The process is slow, labor intensive and not integrated with other systems. Barbara Nguyen, a resources analyst and functional lead for the BF project, states, "Just imagine inputting and consolidating every budget line for each project and division, which includes all the full-cost elements of workforce, salary, travel, service pool and G&A at the center, into one huge Excel spreadsheet...manually."

What does BF include? Aligned with the cross-cutting processes defined in the NASA 2003 Strategic Plan, BF has the capabilities to facilitate: the service pool and G&A planning, workforce planning, project planning and phasing plans. In addition, BF functionality is designed to operate in coordination with the stages and requirements of the federal and NASA budget cycle. BF will include data gathering for the center POP submissions, NASA budget submission and even the pass-back process with the Office of Management and Budget and Congress.

What's even better is that BF is designed to integrate with Core Finance (CF), which will enable users to compare their actual expenditures to their budget. BF functionality is designed, in conjunction with CF, to support execution, advocacy, reporting, full-cost budgeting and management and can pro-

vide all this with real-time information.

How will BF be implemented? According to the BF Deputy Project Manager Tim Howell, "The BF implementation team at Ames is ahead on its project schedule milestones. As we approach 'go-live' in October, users at Ames can be expecting more communications,



more presentations and much more visibility of the project around the center in general." He also recommends everyone start to understand full-cost budgeting. "Not many folks have a full grasp of full-cost, or even the pre-POP and POP process. Planning in full-cost and how it links to BF is high on our training strategy."

The training plan for BF incorporates many lessons learned from other IFMP project implementations. For example, the training will be tailored as much as possible to the Ames community and the BF team is excited to report that it will be using Ames data in the training examples. Everyone knows how hard it is to learn when the data and examples being shown do not relate to the data we recognize. In addition, each class will include training on relevant reports from the BF business warehouse.

One of the CM co-leads, Darlene Gross, stated "we want users to start getting familiar with the system now. To do that, there are monthly user-community meetings where we show screen shots of the BF system. We have set-up a 'resources' room to provide opportunities for team members and trainers to start familiarizing themselves with the system prior to training and we are planning more live demonstrations."

The latest hands-on demo was delivered to Ames' Chief Financial Officer Lewis Braxton, and he was excited about what the system provides. Gross says CM is working tirelessly on the communication strategy for BF. "We are facilitating ongoing discussions with our user community, giving presentations and generally informing users of progress, issues and status on BF implementation and training."

How are people reacting to BF? Some people, such as Michael Schuh, an engineer in Code APM, are impressed with the progress of IFMP and BF. "I think

bringing a financial computer system into a common way of doing business is smart," said Schuh. But, he cautions that the BF training team needs to ensure that the correct people are trained, since researchers and scientists like himself "need to stay focused on the center's mission."

There are others with reservations about the new BF system and, in general, IFMP. Fred Van Wert, resources executive for Code S, appeared worried when talked to about the new system, since his projects and programs will be greatly impacted by the new business process. "Lack of flexibility is the number one problem. We can't afford to get locked in and if the system is rigid like SAP R/3, it may cause problems. A program that pays in full cost today may not be here when the outyear bills come due," stated Van Wert.

Mary Allamandola, resource executive for Code F, also knows what it takes to prepare a POP submission. "My expectation of BF is it will be an excellent tool to compile and integrate a varied and vast quantity of data in a standardized format. An added bonus is that this information will be available to all interested parties at the center at the same time." Yet, she is concerned that "the real work of formulating a budget--the decision-making, planning, negotiating, etc--will still have to be outside of BF."

Fortunately, senior management has taken an active role in making sure that we are all taking the necessary steps to ensure understanding and ultimately, effective use of the new system. "We need to understand how much it costs to do business. Universities understand it. Private companies understand it. Industry understands it. If they don't understand it, then they go broke," said Executive Assistant to the Director Jack Boyd.

With full-cost management, NASA's budget concept and processes require a robust and flexible system that has sufficient reporting capabilities. "The Ames implementation team is excited to share the benefits of BF with the end users. We will be able to help the Ames resources community and project planners better understand the agency budget cycle, full-cost budgeting and the implications that full cost will have on them," said Teri Nogales-Liang, Ames' BF project manager.

BF is here...are you ready to catch the wave? To get more information about BF, visit the Web at: <http://ifmp.arc.nasa.gov/module-budgetformulation.html>.

By BRETT VU 



## AAE provides interactive, educational experience

The teacher gives out final instructions, the school bus finds a parking space and students squirm at the edge of their seats. The excited students are eagerly awaiting their hands-on introduction to NASA at the Ames Aerospace Encounter (AAE).

Created for fourth-, fifth- and sixth-grade students, the encounter is a unique,

their time, enthusiasm and experience for the sole reward of smiles on the students' faces. Without the volunteer docents, the AAE program would not exist. Docents teach classes, help maintain the facility and have helped develop new exhibits.

"I am a retired vice president of worldwide sales for a major semicon-

ductor company and have lots of hobbies and interests to occupy my time, but I gladly donate my time to the AAE," said docent Robert Skinner. "When I see the sparkle and excitement in the eyes of these young people I know I am making a difference in their lives. NASA deserves great credit for initiating and supporting the AAE," he added.

The AAE's core group of approximately 45 docents volunteer between six to 12 hours per month leading the encounter's three-hour classes. The docents come from all walks of life and backgrounds but are united in their desire to give back to their community.

"Some docents are engineers, others are teachers and there is a stockbroker and a landscape architect. They bring their own experience, and we provide the training they need to work with the students at the AAE," said Edith Barr, AAE operations manager. "Before becoming docents, volunteers receive extensive training including workshops, a written training guide and team teaching. Docents keep current with NASA technology by visiting facilities around the center and receive presentations from NASA scientists and researchers," said Barr.

The AAE serves thousands of Bay Area students throughout the year and is working to reach more students from underserved schools. These classes often need some extra help. Frequently, some students have difficulty with reading or understanding English. Sometimes the teacher can not find enough



Visitors to the AAE marvel at the interactive exhibits and historic artifacts.

interactive program designed to stir young people's imaginations and fuel their enthusiasm for science, mathematics, engineering and technology.

The AAE resides in the 6-foot-by-6-foot supersonic wind tunnel, in Building N-226, which was renovated into a learning center. The encounter teaches concepts in aerospace, Earth and space science, mission control and space station with numerous hand-on activities and interactive lessons.

"I learned a lot of stuff about space that I didn't know before I came here," said a student named Wendy. "I learned that it is important that everybody has to get along and do their job in the space ship. I learned that you need to plan ahead before you do it, just like on the orbiting chair."

Another student named Amber said, "I really enjoyed the way I can learn to be an engineer. I loved the orbital chair and the mission control. I had a good time at the Aerospace Encounter. Also, I want to be an astronaut someday. Thanks for a good time."

All of the student excitement would not be possible if it were not for a dedicated group of docents who volunteer



An Ames employee demonstrates the concepts of gyroscopics to visitors during the recent AAE open house.

adult chaperones to attend. Volunteers are needed to assist AAE docents either with translation services for the students or to work with one or two students at a time in the space station or mission control sections when there is a shortage of parent participation.

"We are fortunate to have a high-caliber team of dedicated docents to teach and inspire our youth during their visit to the AAE," said Donald James, Ames' education director. "The docents are the heart of the AAE. Their contributions are the cornerstone of the program's success. Their solid commitment allows us to reach thousands of students, their parents and teachers each year in a way that only NASA can."

If you or someone you know is interested in becoming a docent, translator or docent assistant (no training necessary), contact Barbara Patterson at ext. 4-0494 or e-mail her at: [bpatterson@mail.arc.nasa.gov](mailto:bpatterson@mail.arc.nasa.gov).

For more information about the Ames Aerospace Encounter visit the Web at: <http://encounter.arc.nasa.gov/>

BY JONAS DINO ▲

## RoboCamp West gets underway at Ames

"I got into this robotics program because it brings together a lot of concepts of engineering," said Albert Wu, a senior at Harker Academy High School in Saratoga. "I find great pleasure in seeing this creation that I helped build and design come to life and I love the

Ames' Equal Opportunity Programs Office. NASA's RoboCamp West scholarships pay each student's tuition for both the camp and the SJSU Java course, and provides them with a laptop computer and personal digital assistant. A full scholarship to RoboCamp West is valued at \$4,864 for the seven-week course and is credited as a full semester of college credit. "In addition to the sponsored students, we have 16 other seniors participating in the program, split into 12 teams of three," said Jacinto. By working in teams, they gain the real-world skills necessary to communicate effectively, listen to each other and solve problems together." Each team is assigned a student mentor, who completed RoboCamp West the previous year, to provide one-on-one attention.

"One of the ideas behind a summer with Carnegie Mellon is to engage students in understanding both the science and engineering challenges of space exploration," said Daniel Clancy, acting director of NASA Ames' Information Sciences and Technology Directorate. "The premise is that space is cool, robots are cool and the combination of both is really cool. We believe that robotics and space exploration is a way to motivate, challenge and encourage students."

NASA Administrator Sean O'Keefe addressed the RoboCamp West students on July 17, saying, "RoboCamp is a real expression of what inspiring the next generation is all about." O'Keefe engaged the students in a discussion of how their schooling and interests fit into the NASA missions. The administrator compared how difficulties encountered in building and remotely operating their

robots directly relates to the issues NASA faces with its autonomous Mars rovers. Drawing on the student's excitement at hearing O'Keefe's talk, instructor Khalid Al-Ali related that the RoboCamp West students were inspired by O'Keefe's visit and many were looking toward careers with the space agency.

This is the second year that RoboCamp West has been offered. In 2002, CMU-West Director Raj Reddy and Maylene Duenas, associate director for strategic development in the Information Sciences and Technology directorate, Code I, conceived of the idea of bringing engineering classes to high school seniors with Code I putting up the seed money for the program. With RoboCamp West's success, Carnegie Mellon is now fully funding the program. "NASA is investing in its future by working with prestigious universities like Carnegie Mellon University to inspire and teach the next generation of researchers and scientists," said Duenas. "NASA is hoping that these students will become future NASA researchers and engineers working on exploration projects using computational science and robotics."

Currently, Carnegie Mellon and SJSU are designing a longitudinal study to see how this course impacts student's career goals and how it affects their lives. For information on next year's RoboCamp West, contact Lisa Jacinto at the Carnegie Mellon University-West Coast Campus at (650) 603-7019, or e-mail at: [jacinto@west.cmu.edu](mailto:jacinto@west.cmu.edu) or visit the Web at: <http://west.cmu.edu>.

BY JONAS DINO AND LISET RIVERA ▲



NASA photo by Dominic Hart

NASA Administrator Sean O'Keefe visits RoboCamp West during his recent visit to Ames. Ames Center Director G. Scott Hubbard (right) accompanied O'Keefe to a RoboCamp West demonstration.

never-ending challenge of this program." Wu is one of 36 high school seniors participating in RoboCamp West.

The camp is hosted at NASA Ames in Building 943 and is co-sponsored by Carnegie Mellon University. As part of the camp, students study Java programming at San José State University (SJSU) through its Mathematics Engineering and Science Achievement (MESA) Engineering program.

"The purpose of the RoboCamp West program is to expose high school seniors to robotics," said Carnegie Mellon's Lisa Jacinto. "They learn about vision-based autonomous mobile robots (robots with cameras)." Each of the seniors builds an autonomous robot, known as the 'TrikeBot,' a three-wheel rover that features an articulated camera and infrared range finder. Using wireless technology, TrikeBots can be remotely controlled using a laptop computer running Java scripts developed by the students, or preprogrammed to perform a variety of tasks. At the end of the class, students take the robots home for further experimentation.

NASA is sponsoring 20 underrepresented minority students with full scholarships provided through

## Ames Rocket Club finishes twelfth year



NASA photo by Seth Carter

The Ames Rocket Club completed its twelfth year this year. Mark Leon, deputy chief, Education Office, Code DP, far left, and Donald James, chief, center middle, direct the program. Far right is Marcella Grant of the Educational Associates program. The children are 5th, 6th, 7th and 8th grade students from the Edison McNair middle school in East Palo Alto.



## DART HazMat team practices to save lives

Responding to a report of a powdery substance in the mailroom, emergency vehicles raced across the Ames campus, sirens blaring and red lights flashing. Stopping just yards away from Building N-255, firefighters piled out of trucks and met Disaster Assistance and Rescue Team (DART) members to discuss the situation.

Within minutes, the members of the DART Hazardous Materials (HazMat) decontamination unit blazed through

training featuring simulations as key instructional materials.

The HazMat team began by assessing the situation with Moffett emergency personnel. As the decontamination unit and the operations truck set up, some team members suited up in protective plastic suits, complete with oxygen tanks, to protect themselves from the hazardous material.

Once the whole HazMat team was ready to go, two team members gathered information on the possible victims and escorted them to the decontamination unit. There, they were showered down and dressed in a protective plastic suit. HazMat members escorted them to the emergency health center, where a health team member asked each individual about symptoms and checked their blood pressure.

Meanwhile, two other team members began vacuuming up the powdery substance. Then, the team taped the vacuum nozzle shut and placed the whole machine in a protective bag. Once all the potential victims and the hazardous materials were taken out of the mailroom, the decontamination unit members scrubbed other team members clean, placing all suits and oxygen tanks in protective bags. The entire emergency drill took roughly three hours.

"It's always good to practice these

scenarios, because you just don't know," said Saisukont Huxtable, an Ames material control specialist who portrayed a victim in the drill. "You have to be prepared."

Bala said the simulation was a good way to learn what they need to work on in the future.

"From my perspective, the drill went really well," Bala said. "I had fun and it was great to have an opportunity to put our response procedures to the 'test,' so to speak. It was definitely effective for helping us (DART HazMat) see our strengths and weaknesses."

To learn more about DART, visit the Web at: <http://dart.arc.nasa.gov>. To participate in DART, contact Lynn Engelbert at [lengelbert@mail.arc.nasa.gov](mailto:lengelbert@mail.arc.nasa.gov)

BY ALLISON MARTIN

▲



DART HazMat team members ask mailroom employees about symptoms they may be experiencing as well as their blood pressure during the recent emergency preparedness drill at Ames.

the gates into the mailroom parking lot and began to set up cleaning equipment to use on Ames employees who might be victims of the latest terrorism attack.

But the powdery substance wasn't Anthrax, it was Squencher drink mix. Consequently, no Ames employees were in danger of anything except missing a few hours of work.

It was all part of a scheduled drill for the Ames DART HazMat team practicing its emergency responses. With cooperation from the Moffett Security and Moffett Fire departments, the HazMat team honed their skills to be prepared in case a real terrorist attack occurs.

"Drills like this are a great opportunity to respond and work together to see what everyone's capabilities are," said Lynn Bala, staff assistant for the Advanced Air Transport Technologies department.

This drill was unique because the exercise was being filmed by a Florida video crew. The National Terrorism Preparedness Institute plans to use the Ames footage as part of a training video on hazardous material removal.

The institute, a division of St. Petersburg College in Florida, trains civilians and military crews to handle weapons of mass destruction. The institute does both onsite and online interactive



A member of the DART HazMat team during the recent emergency response drill performed at Ames.

NASA photos by Dominic Hart

## Sally Ride to speak at science festival

The Sally Ride science club and Hewlett Packard will present the Stanford Science Festival at Stanford University on Sunday, Oct. 5. The festival is for middle school girls, with parents and teachers also welcome to attend. The keynote speaker at the event will be astronaut Sally Ride.

Discovery workshops will be held by women professionals ranging from veterinarians to rocket scientists. A street fair with booths, exhibits, food, music and a raffle will also be held. There is also an adult track of workshops for parents and teachers on topics such as hands-on science and gender equity.

The festival begins at 11:30 a.m. with the street fair and registration, and concludes at 4:30 p.m. The cost is \$18 in advance (\$25 at the door) and includes all festival events, lunch, snack and festival materials.

Parents, teachers and students can pre-register and find out more about the festival schedule and workshops either online on the Web at: [www.SallyRideFestivals.com](http://www.SallyRideFestivals.com) or by calling (800) 561-5161. Pre-registration is recommended.

## Event Calendar

**Ames Amateur Radio Club**, third Thursday of each month, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BKF, at ext. 4-6262.

**Ames Ballroom Dance Club**. Classes on Tuesdays. Begin classes at 6:15 p.m. Higher-level class meets at 5:15 p.m. Held in Bldg. 944, the Rec. Center. POC: Helen Hwang, hwang@dm1.arc.nasa.gov.

**Ames Bowling League**, Palo Alto Bowl on Tuesday nights. Seeking full-time bowlers and substitutes. Questions to sign up: Mike Liu at ext. 4-1132.

**Ames Child Care Center Board of Directors Mtg**, every other Thursday (check Web site for meeting dates: <http://acc.arc.nasa.gov>), 12 noon to 1:30 p.m., N-215, Rm. 212. POC: Tom Maier, ext. 4-3643.

**Ames Contractor Council Mtg**, first Wednesday each month, 11 a.m., N-200, Comm. Rm. POC: Anita Fогtman, ext. 4-4432.

**Ames Diabetics (AAD)**, 1st & 3rd Weds, 12 noon to 1 p.m., at Ames Mega Bites, Sun room. Support group discusses news affecting diabetics. POC: Bob Mohlenhoff, ext. 4-2523/e-mail at: [bmohlenhoff@mail.arc.nasa.gov](mailto:bmohlenhoff@mail.arc.nasa.gov).

**Ames Federal Employees Union (AFEU) Mtg**, third Wednesday of ea. month, 12 p.m. to 1 p.m., Bldg. 19, Rm 1042. Info: <http://www.afeu.org>. POC: Marianne, ext. 4-4055.

**Ames Mac Support Group Mtg**, third Tuesday of ea. month, 11:30 a.m. to 1 p.m., Bldg. N262, Rm 180. POC: Julie ext. 4-4694 or Tony ext. 4-0340.

**Ames Model Aircraft Club**, flying radio-controlled aircraft at the north end of Parsons Ave. on weekend mornings. POC: Mark Sumich, ext. 4-6193.

**Ames Sailing Club Mtg**, 2nd Thurs of ea. month (Feb through Nov), 11:30 a.m. - 1 p.m. Bldg. 223, Ames Visitor Center & Gift Shop, special events room. All are welcome. POC: Jeff Smith, ext. 4-2586.

**Environmental, Health and Safety Information Forum**, first Thursday of each month, 8:30 a.m. to 9:30 a.m., Bldg. 221/Rm 155. URL: <http://q.arc.nasa.gov/qe/events/EHSeries/> POC: Julie Morsellino at ext. 4-6810.

**The Hispanic Advisory Committee for Excellence HACE Mtg**, first Thurs of month in N255 room 101C from 11:45 a.m. to 12:45 p.m. POC: Eric Kristich at ext. 4-5137 and Mark Leon at ext. 4-6498.

**Jetstream Toastmasters**, Mondays, 12 p.m. to 1 p.m., N-269/Rm. 179. POC: Cathy Payne at ext. 4-0003.

**Nat'l Association of Retired Federal Employees (NARFE)**, Former and current federal employees. Your only contact with Congress. Join to protect your federal retirement. Chptr #50 meets the first Fri. of each month at HomeTown Buffet, 2670 El Camino (at Kiely), S. Clara, 11 a.m., lunch \$6.70. POC Earl Keener (408) 241-4459 or NARFE 1-800-627-3394.

**Native American Advisory Committee Mtg**, fourth Tues each month, 12 noon to 1 p.m., Bldg. 19, Rm 1096. POC: Mike Liu at ext. 4-1132.

## Ames police lieutenant authors science fiction novel

Just before the lunchtime cafeteria rush on July 15, Ames staffers eagerly

his book, "entertaining and fast-paced. I think it will bring a lot of thoughts about the future of cloning. It will open people's minds." With today's cutting-edge technology, Kinkhorst believes that one day, human cloning will be possible.

For fans, Kinkhorst advises patience because there will be a sequel to 'The

Clone' coming up. There are also poems Kinkhorst has written, posted on [www.poetry.com](http://www.poetry.com). Readers can access the poems by typing in 'Franz Kinkhorst.' To buy Kinkhorst's book, visit Amazon.com or any Barnes and Noble store.

By **CONNIE WONG** ▲



NASA photo by Tom Trower

Franz Kinkhorst during his book signing event in July.

lined up so that Ames police lieutenant Franz Kinkhorst could sign copies of his first book--a science fiction fantasy called 'The Clone.'

Kinkhorst works at Ames as a federal police lieutenant. His inspiration for his book came from his work at Ames, because of being in close contact with the FBI and the secret services.

Several months ago after waking up from a dream, Kinkhorst had a great idea for a book. Inspired by events in his own life, he began writing 'The Clone,' which took one year to write and was published in May. The book also includes a short story, 'Young Again,' which, incredibly, only took Kinkhorst one day to write.

'The Clone' takes place in the future, where cloning has become a reality. In the book, the United States Army soldiers wounded in battle can have any wounded part of their bodies cloned, almost like a manufacturing plant. The machine the army uses is a scanning machine that scans their memories and DNA to reconstruct their body parts.

Kinkhorst believes readers will find

## Summer students attend orientation

On July 23, all Ames summer students were invited to attend a summer student orientation program. This was a wonderful opportunity for students to hear a little about the kinds of work done at Ames. Estelle Condon, associate center director, began the orienta-

tion with a broad overview of the center, touching on each of the fields in which research is conducted at Ames. search and Education Program (MUREP).



Ames summer students listen attentively at the recent orientation program.

NASA photo by Tom Trower

tion with a broad overview of the center, touching on each of the fields in which research is conducted at Ames.

She was followed by Jan Aikins, acting deputy director of Information Technology; Michael Dudley, the associate director of Aerospace; and Gunter Riegler, the director of Astrobiology and Space Research. Each speaker gave a brief overview of their organization's research and goals. Students also had the opportunity to sign up for tours. The orientation was attended by students from several different groups at Ames. These include the Undergraduate Student Research Program (USRP); the Student Career Experiences Program (SCEP); the Student Temporary Employment Program (STEP); the Foothill-DeAnza Community College District Internship and Training Program; and the Minority University Re-

By **DEBORAH HUTCHINGS** ▲



## Ames Classifieds

Ads for the next issue should be sent to [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) and must be resubmitted for each issue. Ads must involve personal needs or items; (no commercial/third-party ads) and will run on a space-available basis only. First-time ads are given priority. Ads must include home phone numbers; Ames extensions and email addresses will be accepted for carpool and lost and found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads. Caveat emptor!

## Housing

Room for rent in Sunnyvale. Share w/one adult and pets. 3bd/1ba, only 3 miles from Ames. House fully furnished, bedroom is not. Room includes phone line and cable TV line. Shared common areas include kitchen, living rm, bathrm, W/D and bkyard. Garage may use for storage. \$600/mo plus 1/2 utils and dep. Call (408) 530-8591 or e-mail [moopy73@yahoo.com](mailto:moopy73@yahoo.com).

Studio apartment, 1 bdrm apartment, or room in home needed for visiting Italian graduate student September through November 2003. Ted (408) 420-3438 or e-mail [ted.roush@attbi.com](mailto:ted.roush@attbi.com).

## Transportation

'82 Chevy Luv, 4 wheel drive pick-up, trade or barter. Documented and registered in Washington State, 2002. Runs great, has rust, dings. Great as woods or work truck. Wanted: watercraft, small sailboat or \$600. Bob (707) 747-6174.

'91 Toyota Previa LE AllTrac; 4-Cyl. 2.4L, auto., AC, PS, PW, CC, AM/FM/cass./CD, ABS (4-wheel) roof rack, 130K mls, \$5,500 or B/O. Call (408) 863-0835.

'91, 25' Alpenlite fifth wheel, slide, air, CD player, new batteries/tires, queen bed, awning, non smoking. Excellent condition. Call (650) 369-0578 or e-mail [gertnjoie@sbcglobal.net](mailto:gertnjoie@sbcglobal.net).

'97 Travel Supreme fifth wheel, with three slide-outs. Great second home for \$40,000. Orig. \$82,000. White w/blue designs. Lots of storage space. Never been on the road, just lived in. Husband lost job. Must sell. Exc. cond. Call (650) 596-9578 (H) or (650) 643-1245 (cell).

## Miscellaneous

350MHz Windows 2000 PC: 27GB HD, 261MB RAM, 16MB graphics, 10/100 network, modem, CD-RW, keyboard, mouse and speakers. \$110. Call (408) 295-2160.

Carters rocking bassinet with retractable wheels, white w/blue pattern, has overhead canopy and ample storage underneath. Great condition. \$25. Call (408) 295-2160.

## Safety Data

	Civil Servants	Contractors
Not recordable first aid cases	0	2
Recordable no lost time cases	1	1
Lost time cases*	0	1
Restricted duty days	0	3
Lost work days	0	0

Data above is for July 2003.

\*(Under new OSHA rules, lost time is defined as restricted duty and or days away from work (lost work days))

Whirlpool electric dryer, 3 cycle, 3 temp. \$75. Call (408) 736-7584, lv. msg.

Beenie Baby collection, some very old ones in excellent condition. Call (510) 703-1063 anytime (price negotiable).

4 Budnik Signature Series/Spider Technique wheels. Hand polished forged aluminum. Brand new (never mounted). Size: 17 x 9. 5. for GM car with 5-Lug bolt pattern (e.g. Camaro, Firebird) \$1,200 or B/O. Jan (650) 224-1925.

Craftsman 10" tablesaw and stand, good cond., \$110. Gas stove GE (XL44), self cleaning oven, white, \$125. Call (408) 985-7251.

Regalo tandem stroller (for 2 kids). Completely collapsible, hardly used, and comes with owner's manual. \$40. Call (408) 295-2160.

HP Pavilion 8655C computer (purchased 6/2000), CD-Rom, CD-RW, 30 GB HD, 192 MB memory, Windows XP, Office 2000 Professional, 17" monitor. \$299 or B/O. Call (650) 604-6769.

Dining room table with 6 chairs and china hutch, \$400; armoire, \$200; and computer chair, \$50. Digital photos available. Call (408) 253-6643.

Looking for that extra tv? Here's one: 27" screen Magnavox TV. Great condition. \$125.00. Esther (650) 961-2732.

Credenza/hutch, 20in x 30in x 46in, beautiful honey-lacquer finish, excellent condition, \$350. Call (650) 473-0604.

## Van Pool

Space available in van pool from Marin and San Francisco to Moffett Field. POC Michael Flynn, at ext. 4-1163 or email at: [mflynn@mail.arc.nasa.gov](mailto:mflynn@mail.arc.nasa.gov)

## Looking for used books...

Got a bunch of old books cluttering up your office, living room or garage? Have CDs you don't listen to or movies you'll never watch again? Then donate them to the Ames Child Care Center (ACCC) fundraiser and receive a tax donation receipt at the same time!

The ACCC accepts all books, CDs, VHS tapes, DVDs and software for adults and for kids. Items can either be dropped off at the ACCC across from Gate 17 or pick-up can be arranged by emailing Maya Popovic [maja@sbcglobal.net](mailto:maja@sbcglobal.net) or calling her at (650) 988-6993.

## Astrogram deadlines

Deadline:	Publication:
Aug 25	Sep 2003
Sep 26	Oct 2003

All Ames employees are invited to submit articles relating to Ames projects and activities for publication in the *Astrogram*. When submitting stories or ads for publication, submit your material, along with any questions, in MS word by e-mail to: [astrogram@mail.arc.nasa.gov](mailto:astrogram@mail.arc.nasa.gov) on or before the deadline.

## Exchange Information

Information about products, services and opportunities provided to the employee and contractor community by the Ames Exchange Council. Visit the web site at: <http://exchange.arc.nasa.gov>

**Beyond Galileo** N-235 (8 a.m. to 2 p.m.) ext. 4-6873

Ask about NASA customized gifts for special occasions. Make your reservations for Chase Park

**Mega Bites** N-235 (6 a.m. to 2 p.m.) ext. 4-5969

See daily menu at: <http://exchange.arc.nasa.gov>

**Visitor Center Gift Shop** N-223 (10 a.m. to 4:00 p.m.) ext. 4-5412

NASA logo merchandise, souvenirs, toys, gifts and educational items.

**Tickets, etc...** (N-235, 8 a.m. to 2 p.m.) ext. 4-6873

Check web site for discounts to local attractions, <http://exchange.arc.nasa.gov> and click on tickets.

**NASA Lodge** (N-19) 603-7100

Open 7 days a week, 7:00 a.m. to 10 p.m. Rates from \$40 - \$50.

## Vacation Opportunities

Lake Tahoe-Squaw Valley Twnhse, 3bd/2ba-equipped, balcony view, horseback riding, hiking, biking, golf, river rafting, tennis, ice skating and more. Call (650) 968-4155, [DBMcKellar@aol.com](mailto:DBMcKellar@aol.com)

South Lake Tahoe cottage w/wood fireplace, hot tub. Rates \$50 to \$130 per night. Call (650) 967-7659 or (650) 704-7732.

Vacation rental, Bass Lake, 4 mls south of Yosemite. 3bd/1.5 ba, TV, VCR, MW, frplc, BBQ, priv. boat dock. Sleeps 8. \$1,050/wk. Call (559) 642-3600 or (650) 390-9668.

Big Sur vacation rental, secluded 4bd/2ba house in canyon setting. Fully eqpd kitchen. Access to priv. beach. Tub in patio gdn. Halfway between Carmel and Big Sur. \$175/night for 2; \$225 for 4 and \$250 for more, plus \$150 cleaning dep. Call (650) 328-4427.

Incline Village: Forest pines, Lake Tahoe condo, 3 bd/2 ba, sleeps 8. Fireplc, TV/VCR, MW, W/D, jacuzzi, sauna, pool. \$120/night low season; \$155/night high season. \$90 cleaning fee and 12% Nevada room tax. Charlie (650) 366-1873.

Tahoe Donner vacation home, 2 bd/2ba. trees, deck, sun, fun. Access to pools, spa, golf, horseback riding, \$280 wkend, \$650 week. Call (408) 739-9134.

Pine Mountain Lake vacation home. Access to golf, tennis, lake, swimming, horseback riding, walk to beach. Three bedrooms/sleeps 10. \$100/night. Call (408) 799-4052 or (831) 623-4054.

## Ames emergency announcements

To hear the centerwide status recording, call (650) 604-9999 for information announcements and emergency instructions for Ames employees. You can also listen to 1700 KHz AM radio for the same information.

## Boyd to develop new NASA history office at Ames

Executive Assistant to the Director Jack Boyd is beginning to develop a new NASA Ames history office that will organize and archive information on the work Ames has done over the past 64 years.

The history office will provide a central location for materials such as artifacts, documents, monographs oral histories and existing history books. As Ames' senior advisor for history, Boyd will oversee coordination of the Ames history program and the development of the history office. He plans to hire an archivist and an oral historian to assist in the development and maintenance of the new office.

"The main task will be to archive it all," Boyd explained. "Things are spread out all over the center."

The office will be located on the ground floor of Building N-207. In his new role, Boyd plans to work closely with the Ames Technical Library, as well as the education and outreach offices.

The history office will also collaborate with other NASA centers, especially the NASA Headquarters History Office and other governmental agencies and contractors. Professional, scientific, engineering and historical organizations will also be involved, according to Boyd.

Boyd welcomes Ames employees to talk to him about items or stories they feel should be included in the historical archives. He may be contacted by e-mail at [John.W.Boyd@nasa.gov](mailto:John.W.Boyd@nasa.gov) or calling ext. 4-5222.

BY ALLISON MARTIN ▲

## Message from the EOP office

The Department of Labor has a comprehensive, federal Web site with one-stop access to governmental disability information. Disabilityinfo.gov or <http://www.disabilityinfo.gov> is the Americans with disabilities' gateway to information and resources needed to become full participants in the 21st century workforce.

Launched in October 2002 as part of the New Freedom Initiative, Disabilityinfo.gov boasts an average of 5,000 visitors from over 135 countries per day. This new and exciting Web site hosts topics such as civil rights, job accommodations, income, employment, emergency preparedness, health, medicare, medicaid, housing, education, transportation and technology. It is the result of the collaborative efforts of multiple federal agencies and is designed to be a one-stop point of entry to access governmental services and information affecting individuals with disabilities, their families, their employers and service providers.

## All Ames bowling league begins new season

Attention bowlers--the All Ames Bowling League begins playing on Tuesday, Sept. 2, after Labor Day. Our season matches will run weekly through April 2004 on Tuesday nights, at the Palo Alto Bowl on El Camino Real.

All skill levels are welcome, as are spouses and significant others. Since team rosters determine the number of bowling lanes we are assigned, it's im-

portant now to start forming your team or sign up for existing teams needing members.

The All Ames League is a 'handicap' league, so the emphasis is on fun, and enjoying a night out of the house. For answers to questions about the bowling league, or if you wish to sign-up, contact Toby Garcia at ext. 4-1382, or email at [tgarcia@mail.arc.nasa.gov](mailto:tgarcia@mail.arc.nasa.gov).



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